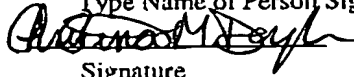


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Attorney Docket No. P51375

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Behrens, *et al.* 14 April 2005
Int'l Serial No.: PCT/US03/28654 Art Unit: unknown
Int'l Filing Date: 12 September 2003 Examiner: unknown
For: A SET OF UBIQUITOUS CELLULAR PROTEINS INVOLVED IN
VIRAL LIFE CYCLE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATUS INQUIRY

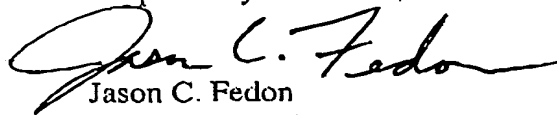
Sirs:

Applicants spoke with Diana of the PCT Help Desk on 14 April 2005. Diana was unable to retrieve any record of submission by international application number or attorney docket number. Enclosed, please find a copy of the submission to the USPTO filed 11 March 2005, the return express mail receipt, and the returned post card date stamped by the PCT/PTO.

Applicants have received no further correspondence or communications from the Commissioner of Patents concerning this case.

Applicant requests the current status of the application.

Respectfully submitted,



Jason C. Fedon
Agent for Applicants
Registration No. 48,138

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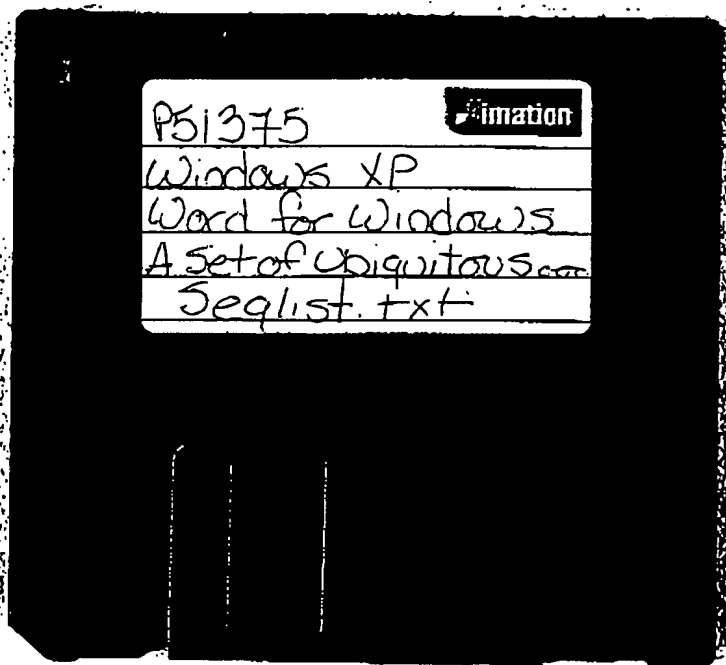
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DOCKET No. P51375 Date Mailed 11 Mar 05 Atty/Secy JCF/mcdMAILING: ~~CERTIFICATE~~ EXPRESS MAIL # EV60816530208J.S. Serial No. Unknown Filing Date: here withInt'l App. No. PCT/US03/27694 Int'l Filing Date: 12 Sept. 03

RECEIPT IS ACKNOWLEDGED FOR THE FOLLOWING:

- ☐ Appln. Trans. (+ 1 copy) for: ☐ Provisional ☐ CIP ☒ Statement to Support Filing
- ☐ Utility/Continuation ☐ CPA ☐ RCE ☐ Divisional ☐ Copy of Notice to Comply
- ☐ Specification _____ pages ☒ Abstract 1 pgs ☒ Diskette ☒ Paper Seq. Listing
- ☐ Dec. & Power of Atty _____ pages () ☐ Appeal Brief _____ pages
- ☐ Drawings _____ Sheet(s)/Figs _____ to _____ ☐ Petition _____ pgs.
- ☐ Assignment _____ pages & Recordation Cover Sheet ☐ Status Request
- ☒ Trans. Ltr Nat'l Stage Entry (3pgs.) ☐ Trans. Nat'l Stage (2nd sub)
- ☐ Information Disclosure Statement ☐ Resp. to Written Opinion
- ☐ Form PTO-1449 _____ pgs. & _____ References ☐ Priority Document
- ☒ Amendment ☐ Response 10 pages ☐ Notice of Appeal/Brief
- ☐ Petition for Extension of Time ☐ Resp. to Rest. Req. _____ pgs.
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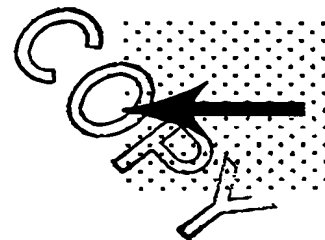
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Christine Dorch

Attorney Docket No.: P51375

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Behrens, et al.

11 March 2005

International Serial No.: PCT/US03/28654

Group Art Unit No.: unknown

International Filing Date: 12 September 2003

Examiner: unassigned

For: A Set Of Ubiquitous Cellular Proteins Involved In Viral Life Cycle

**STATEMENT TO SUPPORT FILING AND SUBMISSION IN ACCORDANCE
WITH 37 CFR §§ 1.821 THROUGH 1.825**

Commissioner for Patents

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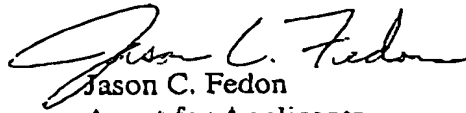
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- (X) I hereby state that the contents of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 CFR §1.821(c) and (e), respectively, are the same.
- () I hereby state that the submission filed in accordance with 37 CFR §1.821 (g) does not include new matter.
- () I hereby state that the submission filed in accordance with 37 CFR §1.821 (h) does not include new matter or go beyond the disclosure in the international application as filed.
- () I hereby state that the amendments, made in accordance with 37 CFR §1.825 (a), included in the substitute sheet(s) of the Sequence Listing are supported in the application, as filed, at pages _____. I hereby state that the substitute sheet(s) of the Sequence Listing does (do) not include new matter.
- () I hereby state that the substitute copy of the computer readable form, submitted in accordance with 37 CFR §1.825(b), is the same as the amended Sequence Listing.

Serial No.: PCT/USO 3654
Group Art Unit No.: unknown

() I hereby state that the substitute copy of the computer readable form,
submitted in accordance with 37 CFR §1.825(d), is identical to that originally
filed.

Respectfully submitted,



Jason C. Fedon
Agent for Applicants
Registration No. 48,138

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Sequence Listing Transmittal.doc

PATENT
ATTORNEY'S DOCKET NUMBER P51375TRANSMITTAL LETTER TO THE U.S. DESIGNATED OFFICE
(DO/US) - ENTRY INTO NATIONAL STAGE UNDER 35 USC 371

INTERNATIONAL APP. NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/US03/28654	12 September 2003	13 September 2002

TITLE OF INVENTION
A SET OF UBIQUITOUS CELLULAR PROTIENS INVOLVED IN VIRAL LIFE CYCLEAPPLICANT(S) FOR DO/US
Sven-Erik BEHRENS, Olaf ISKEN, Claus W. GRASSMANN, and Robert T. SARISKYCommissioner for Patents
Mail Stop: PCT
P.O. Box 1450
Alexandria, VA 22313-1450
ATTENTION: DO/US

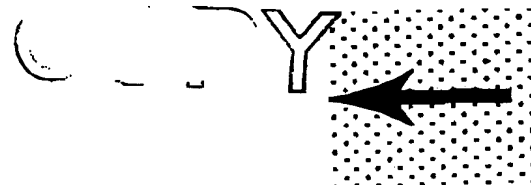
CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this Transmittal Letter, Form PTO 1390 and the papers indicated as being transmitted therewith, and Post Card are being deposited with the United States Postal Service on this date March 11, 2005 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EV608165302US addressed to the:

Commissioner for Patents, Mail Stop: PCT, P.O. Box 1450, Alexandria, VA 22313-1450.

Christina A. Doyle
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Christina A. Doyle
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Form PTO 1390 (REV 5-93)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER P51375	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED / ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)	
INTERNATIONAL APPLICATION NO. PCT/US03/28654		INTERNATIONAL FILING DATE 12 September 2003		PRIORITY DATE CLAIMED 13 September 2002	
TITLE OF INVENTION A SET OF UBIQUITOUS CELLULAR PROTIENS INVOLVED IN VIRAL LIFE CYCLE					
APPLICANT(S) FOR DO/EO/US Sven-Erik BEHRENS, Olaf ISKEN, Claus W. GRASSMANN, and Robert T. SARISKY					

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

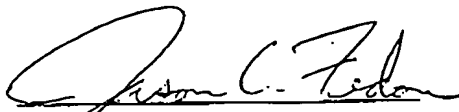
11. ☐ An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98; and Form PTO-1449.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
(Add claim to priority via Preliminary Amendment for US originating cases only)
14. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. ☐ A substitute specification.
16. ☐ Power of attorney.
17. ☒ An Abstract on a separate sheet of paper.
18. ☐ Copy of Form PCT/ISA/210.
19. ☐ Other items or information.

US APPLICATION NO. (if known see 37 CFR 1.50)		INTERNATIONAL APPLICATION NO. PCT/US03/28654		ATTORNEYS DOCKET NO. P51375	
20. [X] The following fees are submitted:				CALCULATION PTO USE ONLY	
Basic National Fee (37 C.F.R. 1.492(a)(1)-(5)):					
[X] Basic Filing Fee.....\$300.00				\$300.00	
[X] Examination Fee *If International Preliminary Examination Report prepared by USPTO and all claims satisfy provisions of PCTArticle33(1)-(4).....\$100.00 *All other situations\$200.00				\$200.00	
[X] Search Fee *Search Fee (37 CFR 1.445(a)(2) has been paid on the international application to the USPTO as an International Searching Authority.....\$100.00 *International Search Report prepared and provided to the Office.....\$400.00 *All other situations.....\$500.00				\$500.00	
TOTAL OF ABOVE CALCULATIONS =				\$1000.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$0.00	
Claims	Number Filed	Number Extra	Rate		
Total claims	19 - 20 =	0	0 x \$50.00	\$0.00	
Independent claims	2- 3 =	0	0 x \$200.00	\$0.00	
Multiple dependent claims (if applicable)			+ \$360.00	\$0.00	
TOTAL OF ABOVE CALCULATIONS =				\$0.00	
National Stage Application size fee - for each additional 50 sheets that exceed 100 sheets. No. of 50 addtl sheets 1 x \$250.00 =				\$0.00	
SUBTOTAL =				\$1000.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)) +				\$	
TOTAL NATIONAL FEE =				\$1000.00	
				Amount to be refunded	\$
				charged	\$

- a. ☐ A check in the amount of \$_____ to cover the above fees is enclosed.
- b. [X] Please charge my Deposit Account No. 19-2570 in the amount of \$1000.00 to cover the above fees.
- c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-2570.
- d. [X] General Authorization to charge any and all fees under 37 CFR 1.16 or 1.17, including petitions for extension of time relating to this application (37 CFR 1.136 (a)(3)).

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

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NAME
48,138
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Attorney Docket No: P51375

IN THE UNITED STATES INTERNATIONAL EXAMINING AUTHORITY

International Application No.: PCT/US03/28654
International Filing Date: 12 September 2003
Priority Date Claimed: 13 September 2002
Applicants for DO/US: Sven-Erik BEHRENS, Olaf ISKEN, Claus W.
GRASSMANN, and Robert T. SARISKY
Title of Invention: A SET OF UBIQUITOUS CELLULAR PROTIENS
INVOLVED IN VIRAL LIFE CYCLE

Commissioner for Patents
Mail Stop: PCT
P.O. Box 1450
Alexandria, VA 22313-1450

FIRST PRELIMINARY AMENDMENT

Sir:

Preliminary to calculating filing fees and examining this application please amend the application as follows.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims begin on page 3 of this paper.

Remarks/Arguments begin on page 6 of this paper.

International Application No. PCT/US03/28654
International Filing Date: 12 September 2003

Amendments to the Specification

Please add the priority information paragraph to the specification by inserting the following new paragraph before the first line of the specification:

This application claims the benefit of U.S. Provisional Application No. 60/410,460, filed 13 September 2002.

An Abstract on a separate sheet is attached as required under 37 CFR 1.72(b). Please insert the attached abstract, following the claims.

International Application No. PCT/US03/28654
International Filing Date: 12 September 2003

Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method for modulating viral RNA replication and translation, in a eukaryotic cell, of positive-strand viral RNA, comprising the step of contacting a viral RNA-binding protein (vRbp) with a compound that modulates an activity of said vRbp.
2. (Original) The method of claim 1, wherein said vRbp is selected from the group consisting of: vRbp130, vRbp120, vRbp110, vRbp84, vRbp64, and vRbp45.
3. (Original) The method of claim 1 wherein said activity of the vRbp is selected from the group consisting of:
 - a response to viral RNA,
 - a response to interferon induction,
 - a response to double-stranded RNA-dependent protein kinase (PKR), and
 - a response to vRbp.
4. (Original) The method of claim 3 wherein said response is formation of a viral:cellular ribonucleoprotein (RNP) complex.
5. (Original) The method of claim 4 wherein said RNP complex comprises a viral RNA:vRbp interaction.
6. (Original) The method of claim 5 wherein said viral RNA:vRbp interaction comprises binding of a vRbp to a viral RNA 3' untranslated region (3'UTR).
7. (Original) The method of claim 4 wherein said viral RNA:vRbp interaction comprises binding of a vRbp to a viral RNA 5' untranslated region (5'UTR).
8. (Original) The method of claim 5 wherein said 3'UTR is a UGA box consensus sequence.
9. (Original) The method of claim 3 wherein said response is viral circularization.

International Applicat. No. PCT/US03/28654
International Filing Date: 12 September 2003

10. (Original) The method of claim 9 wherein said viral circularization comprises binding of vRbp to the viral 5'UTR and 3'UTR creating a physical and functional link between both ends of the RNA.

11. (Original) The method of claim 9 wherein said viral circularization comprises an interaction between viral 5'UTR, 3'UTR RNA, vRbp, and cellular proteins involved in the interferon antiviral response.

12. (Original) The method of claim 3 wherein said response is increase in translational frameshifting that result in decreased viral replication.

13. (Original) The method of claim 3 wherein said response is formation of a vRbp:PKR interaction.

14. (Original) The method of claim 1 wherein said viral replication and translation comprises coordinated regulation of replication and translation of viral RNA.

15. (Original) The method of claim 1, wherein said eukaryotic cell is a mammalian cell.

16-17. (Cancelled)

18. (Original) The method of claim 1, wherein said positive strand viral RNA comprises RNA from a member of the family *Flaviviridae*.

19. (Original) The method of claim 1 wherein said positive strand viral RNA comprises RNA from a member of the family *Picornaviridae*.

20-40. (Cancelled)

41. (Original) A method for modulating the function of a viral 3'UTR comprising the step of contacting a 3'UTR with a compound that modulates the structure of the 3'UTR as to inhibit the interaction between 3'UTR and vRbp.

42. (Original) A method for screening to identify compounds that activate or that inhibit the function of vRbp which comprises a method selected from the group consisting of:

International Application No. PCT/US03/28654
International Filing Date: 12 September 2003

- (a) mixing a candidate compound with a solution containing a vRbp, to form a mixture, measuring activity of the vRbp in the mixture, and comparing the activity of the mixture to a standard;
- (b) detecting the effect of a candidate compound on the production of viral RNA in a eukaryotic cell, using for instance, an ELISA assay, reticulocyte lysate translation assay (luciferase RNA); and
- (c) (1) contacting a composition comprising the vRbp with the compound to be screened under conditions to permit interaction between the compound and the vRbp to assess the interaction of a compound, such interaction being associated with a second component capable of providing a detectable signal in response to the interaction of the vRbp with the compound; and
(2) determining whether the compound interacts with and activates or inhibits an activity of the vRbp by detecting the presence or absence of a signal generated from the interaction of the compound with the vRbp.

43-46. (Cancelled)

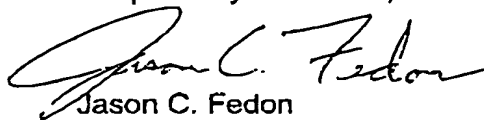
International Application No. PCT/US03/28654
International Filing Date: 12 September 2003

COPY

REMARKS

This Preliminary Amendment is being made upon entry of International Application No. PCT/US03/28654 into the U.S. National Phase of prosecution. In the specification, a new paragraph has been added to the first line of the specification to include the priority information. An Abstract on a separate sheet is attached as required under 37 CFR 1.72(b). Claims 16-17, 20-40, and 43-46 have been cancelled. The Applicants reserve the right to prosecute, in one or more patent applications, the claims as originally filed and/or any other claims supported by the specification. Entry of this amendment into the record is requested.

Respectfully submitted,



Jason C. Fedon

Agent for Applicants

Registration No. 48,138

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Facsimile (610) 270-5090

ABSTRACT OF THE DISCLOSURE

A method of modulating viral RNA replication and translation, in a eukaryotic cell, of positive-strand viral RNA, comprising the step of contacting a viral RNA-binding protein (vRbp) with a compound that modulates an activity of said protein.

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SEQUENCE LISTING

<110> Behrens, Sven-Erik
Isken, Olaf
Grassmann, Claus W.
Sarisky, Robert T.

<120> A Set Of Ubiquitous Cellular Proteins
Involved in Viral Life Cycle

<130> P51375

<140> Unknown

<141> 2005-03-11

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SEQLIST.TXT

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Ser Asn Trp Asn 340 Pro Trp Thr Ser Ser 345 Asn Ile Asp Glu Gly Pro Leu
Ala Phe 355 Thr Pro Glu Gln Ile Ser 360 Met Asp Leu Lys 365 Asn Glu Leu
Met Tyr 370 Gln Leu Glu Gln Asp 375 His Asp Leu Gln Ala 380 Ile Leu Gln Glu
Arg Glu 385 Leu Leu Pro Val 390 Lys Lys Phe Glu Ser 395 Glu Ile Leu Glu Ala
Ile Ser Gln Asn Ser 405 Val Val Ile Ile Arg Gly Ala Thr Gly Cys Gly
Lys Thr Thr Gln 420 Val Pro Gln Phe Ile 425 Leu Asp Asp Phe Ile Gln Asn
Asp Arg Ala 435 Glu Cys Asn Ile Val Val Thr Gln Pro Arg Arg Ile
Ser Ala Val 450 Ser Val Ala Glu Arg Val Ala Phe 460 Glu Arg Gly Glu Glu
Pro Gly Lys Ser Cys Gly 470 Tyr Ser Val Arg Phe 475 Glu Ser Ile Leu Pro
Arg Pro His Ala Ser 485 Ile Met Phe Cys Thr Val Gly Val Leu Leu Arg
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Gly Val Thr Lys Val Ile Leu Ser Thr Asn Ile Ala Glu Thr Ser Ile
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Thr Ala Gly Phe Cys Phe His 775 Leu Cys Ser Arg Ala 780 Arg Phe Glu Arg
Leu Glu Thr His Met Thr 790 Pro Glu Met Phe Arg Thr Pro Leu His Glu
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SEQLIST.TXT

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 865 870 875 880
 Cys Thr Ile Ala Ala Ala Thr Cys Phe Pro Glu Pro Phe Ile Asn Glu
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 Ser Asp His Val Ala Leu Leu Ser Val Phe Gln Ala Trp Asp Asp Ala
 915 920 925
 Arg Met Gly Gly Glu Glu Ala Glu Ile Arg Phe Cys Glu His Lys Arg
 930 935 940
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SEQLIST.TXT

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SEQLIST.TXT

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Ile Asp Glu Gln Glu Lys Gly Ser Ser Glu Gln Ala Glu Ser Asp Asn
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Met Asp Val Pro Pro Glu Asp Asp Ser Lys Glu Glu Ala Gly Glu Gln
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Lys Thr Glu His Met Thr Arg Thr Leu Arg Gly Val Met Arg Val Gly
85 90 95
Leu Val Ala Lys Cys Leu Leu Leu Lys Gly Asp Leu Asp Leu Glu Leu
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Val Leu Leu Cys Lys Glu Lys Pro Thr Thr Ala Leu Leu Asp Lys Val
115 120 125
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130 135 140
Glu Ile Leu Gln Ser Val Asp Asp Ala Ala Ile Val Ile Lys Asn Thr
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Lys Glu Pro Pro Leu Ser Leu Thr Ile His Leu Thr Ser Pro Val Val
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Arg Glu Glu Met Glu Lys Val Leu Ala Gly Glu Thr Leu Ser Val Asn
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Asp Pro Pro Asp Val Leu Asp Arg Gln Lys Cys Leu Ala Ala Leu Ala
195 200 205
Ser Leu Arg His Ala Lys Trp Phe Gln Ala Arg Ala Asn Gly Leu Lys
210 215 220
Ser Cys Val Ile Val Ile Arg Val Leu Arg Asp Leu Cys Thr Arg Val
225 230 235 240
Pro Thr Trp Gly Pro Leu Arg Gly Trp Pro Leu Glu Leu Cys Glu
245 250 255
Lys Ser Ile Gly Thr Ala Asn Arg Pro Met Gly Ala Gly Glu Ala Leu
260 265 270
Arg Arg Val Leu Glu Cys Leu Ala Ser Gly Ile Val Met Pro Asp Gly
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Ser Gly Ile Tyr Asp Pro Cys Glu Lys Glu Ala Thr Asp Ala Ile Gly
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305 310 315 320
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325 330 335
Asp Pro Leu Pro Ser Lys Met Pro Lys Lys Pro Lys Asn Glu Asn Pro
340 345 350
Val Asp Tyr Thr Val Gln Ile Pro Pro Ser Thr Thr Tyr Ala Ile Thr
355 360 365
Pro Met Lys Arg Pro Met Glu Glu Asp Gly Glu Glu Lys Ser Pro Ser
370 375 380
Lys Lys Lys Lys Ile Gln Lys Lys Glu Glu Lys Ala Glu Pro Pro
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Gln Ala Met Asn Ala Leu Met Arg Leu Asn Gln Leu Lys Pro Gly Leu
405 410 415
Gln Tyr Lys Leu Val Ser Gln Thr Gly Pro Val His Ala Pro Ile Phe
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Thr Met Ser Val Glu Val Asp Gly Asn Ser Phe Glu Ala Ser Gly Pro
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Pro Val Val Glu Ala Val Ser Thr Pro Ser Ala Ala Phe Pro Ser Asp
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Ala Thr Ala Glu Gln Gly Pro Ile Leu Thr Lys His Gly Lys Asn Pro
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SEQLIST.TXT

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580 585 590
Pro Leu Ala Leu Asp Ala Asn Lys Lys Lys Arg Ala Pro Val Pro Val
595 600 605
Arg Gly Gly Pro Lys Phe Ala Ala Lys Pro His Asn Pro Gly Phe Gly
610 615 620
Met Gly Gly Pro Met His Asn Glu Val Pro Pro Pro Pro Asn Leu Arg
625 630 635 640
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645 650 655
Phe Gly Gly Ala Asn His Gly Gly Tyr Met Asn Ala Gly Ala Gly Tyr
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Gly Ser Tyr Gly Tyr Gly Gly Asn Ser Ala Thr Ala Gly Tyr Ser Gln
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His Gly Gly Gln Gln Lys Pro Ser Tyr Gly Ser Gly Tyr Gln Ser His
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755 760 765
Pro Pro Gln Gly Lys Gln Lys Gly Tyr Asn His Gly Gln Gly Ser Tyr
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Ser Tyr Ser Asn Ser Tyr Asn Ser Pro Gly Gly Gly Gly Ser Asp
785 790 795 800
Tyr Asn Tyr Glu Ser Lys Phe Asn Tyr Ser Gly Ser Gly Gly Arg Ser
805 810 815
Gly Gly Asn Ser Tyr Gly Ser Gly Gly Ala Ser Tyr Asn Pro Gly Ser
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His Gly Gly Tyr Gly Gly Gly Ser Gly Gly Gly Ser Ser Tyr Gln Gly
835 840 845
Lys Gln Gly Gly Tyr Ser Gln Ser Asn Tyr Asn Ser Pro Gly Ser Gly
850 855 860
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 <212> DNA
 <213> Homo sapien

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SEQLIST.TXT

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 <212> PRT
 <213> Homo sapien

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 35 40 45
 Ile Asp Glu Gln Glu Lys Gly Ser Ser Glu Gln Ala Glu Ser Asp Asn
 50 55 60
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 65 70 75 80
 Lys Thr Glu His Met Thr Arg Thr Leu Arg Gly Val Met Arg Val Gly
 85 90 95
 Leu Val Ala Lys Cys Leu Leu Leu Lys Gly Asp Leu Asp Leu Glu Leu
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 Val Leu Leu Cys Lys Glu Lys Pro Thr Thr Ala Leu Leu Asp Lys Val
 115 120 125
 Ala Asp Asn Leu Ala Ile Gln Leu Ala Ala Val Thr Glu Asp Lys Tyr
 130 135 140
 Glu Ile Leu Gln Ser Val Asp Asp Ala Ala Ile Val Ile Lys Asn Thr
 145 150 155 160
 Lys Glu Pro Pro Leu Ser Leu Thr Ile His Leu Thr Ser Pro Val Val
 165 170 175
 Arg Glu Glu Met Glu Lys Val Leu Ala Gly Glu Thr Leu Ser Val Asn
 180 185 190
 Asp Pro Pro Asp Val Leu Asp Arg Gln Lys Cys Leu Ala Ala Leu Ala
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 210 215 220
 Ser Cys Val Ile Val Ile Arg Val Leu Arg Asp Leu Cys Thr Arg Val
 225 230 235 240
 Pro Thr Trp Gly Pro Leu Arg Gly Trp Pro Leu Glu Leu Leu Cys Glu
 245 250 255

SEQLIST.TXT

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 Arg Arg Val Leu Glu Cys Leu Ala Ser Gly Ile Val Met Pro Asp Gly
 Ser Gly Ile Tyr Asp Pro Cys Glu Lys Glu Ala Thr Asp Ala Ile Gly
 His Leu Asp Arg Gln Gln Arg Glu Asp Ile Thr Gln Ser Ala Gln His
 Ala Leu Arg Leu Ala Ala Phe Gly Gln Leu His Lys Val Leu Gly Met
 Asp Pro Leu Pro Ser Lys Met Pro Lys Lys Pro Lys Asn Glu Asn Pro
 Val Asp Tyr Thr Val Gln Ile Pro Pro Ser Thr Thr Tyr Ala Ile Thr
 Pro Met Lys Arg Pro Met Glu Glu Asp Gly Glu Glu Lys Ser Pro Ser
 Lys Lys Lys Lys Lys Ile Gln Lys Lys Glu Glu Lys Ala Glu Pro Pro
 Gln Ala Met Asn Ala Leu Met Arg Leu Asn Gln Leu Lys Pro Gly Leu
 Gln Tyr Lys Leu Val Ser Gln Thr Gly Pro Val His Ala Pro Ile Phe
 Thr Met Ser Val Glu Val Asp Gly Asn Ser Phe Glu Ala Ser Gly Pro
 Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln Asp
 Met Gly Leu Pro Thr Gly Ala Glu Gly Arg Asp Ser Ser Lys Gly Glu
 Asp Ser Ala Glu Glu Thr Glu Ala Lys Pro Ala Val Val Ala Pro Ala
 Pro Val Val Glu Ala Val Ser Thr Pro Ser Ala Ala Phe Pro Ser Asp
 Ala Thr Ala Glu Gln Gly Pro Ile Leu Thr Lys His Gly Lys Asn Pro
 Val Met Glu Leu Asn Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile
 Ser Glu Thr Gly Gly Ser His Asp Lys Arg Phe Val Met Glu Val Glu
 Val Asp Gly Gln Lys Phe Gln Gly Ala Gly Ser Asn Lys Lys Val Ala
 Lys Ala Tyr Ala Ala Leu Ala Ala Leu Glu Lys Leu Phe Pro Asp Thr
 Pro Leu Ala Leu Asp Ala Asn Lys Lys Lys Arg Ala Pro Val Pro Val
 Arg Gly Gly Pro Lys Phe Ala Ala Lys Pro His Asn Pro Gly Phe Gly
 Met Gly Gly Pro Met His Asn Glu Val Pro Pro Pro Pro Asn Leu Arg
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<210> 6
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 <212> DNA
 <213> Homo sapien

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SEQLIST.TXT

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<210> 7

<211> 406

<212> PRT

<213> Homo sapien

<400> 7

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65      70      75      80
Ile Asn Asn Val Ile Asp Asn Leu Ile Val Ala Pro Gly Thr Phe Glu
85      90      95
Val Gln Ile Glu Val Arg Gln Val Gly Ser Tyr Lys Lys Gly Thr
100      105      110
Met Thr Thr Gly His Asn Val Ala Asp Leu Val Val Ile Leu Lys Ile
115      120      125
Leu Pro Thr Leu Glu Ala Val Ala Ala Leu Gly Asn Lys Val Val Glu
130      135      140
Ser Leu Arg Ala Gln Asp Pro Ser Glu Val Leu Thr Met Leu Thr Asn
145      150      155      160
Glu Thr Gly Phe Glu Ile Ser Ser Ser Asp Ala Thr Val Lys Ile Leu
165      170      175
Ile Thr Thr Val Pro Pro Asn Leu Arg Lys Leu Asp Pro Glu Leu His
180      185      190      195
Leu Asp Ile Lys Val Leu Gln Ser Ala Leu Ala Ala Ile Arg His Ala
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SEQLIST.TXT

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290      295      300
Glu Gln Gln Asp Met Val Cys Tyr Thr Ala Gln Thr Leu Val Arg Ile
305      310      315      320
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Ser Tyr Leu Ala Ser Glu Ile Ser Thr Trp Asp Gly Val Ile Val Thr
340      345      350
Pro Ser Glu Lys Ala Tyr Glu Lys Pro Pro Glu Lys Lys Glu Gly Glu
355      360      365
Glu Glu Glu Glu Asn Thr Glu Arg Thr Thr Ser Arg Arg Gly Arg Arg
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<210> 8
<211> 1221
<212> DNA
<213> Homo sapien

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1221

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